

IN THE CLAIMS

1.-4. (Canceled)

5. (Currently Amended) A bimodal power data link transceiver device, the device comprising:

a transceiver integrated circuit (IC), the transceiver IC comprising:

a transmitter, the transmitter having;

a phase locked loop (PLL) frequency synthesizer comprising a partial first voltage controlled oscillator (VCO);

a first power amplifier, the first power amplifier coupled to the PLL frequency synthesizer; and

a receiver;

a second power amplifier coupled to the first power amplifier;

a transmit/receive switch coupled to the second power amplifier and the receiver;

a controller coupled to the transceiver IC;

a direct digital frequency synthesizer having an output coupled to an input of the transceiver IC;

a second voltage controlled oscillator (VCO) coupled to the ~~transmitter~~ partial first VCO; and

a loop filter coupled to the second VCO and the transceiver IC.

6. (Currently Amended) A bimodal power data link transceiver device as in claim 5, wherein the PLL frequency synthesizer comprises:

~~a partial-voltage controlled oscillator;~~

a phase detector coupled to the loop filter; and

a crystal oscillator coupled to the phase detector.

7. (Original) A bimodal power data link transceiver device as in claim 5, wherein the receiver comprises:

a low noise amplifier;

a quadrature mixer pair, the quadrature mixer pair coupled to the low noise amplifier and the PLL frequency synthesizer, the quadrature mixer pair having:

a first quadrature signal;

a second quadrature signal;

a demodulator;

a first signal channel, the first signal channel coupling the first quadrature signal to the demodulator; and

a second signal channel, the second signal channel coupling the second quadrature signal to the demodulator.

8. (Original) A bimodal power data link transceiver device as in claim 5, wherein the transceiver IC comprises at least one field programmable gate array (FPGA).

9. (Original) A bimodal power data link transceiver device as in claim 5 wherein the transmit/receive switch comprises a plurality of diodes.

10. (Currently Amended) A method for transceiving data in a device adapted to transceiving data in the radio frequency spectrum, the method comprising ~~the steps of:~~

providing a transceiver integrated circuit (IC), the transceiver IC having:

a partial first voltage controlled oscillator (VCO);

an oscillator input port coupled to the partial first VCO;

a frequency reference port;

a radio frequency input port;

a radio frequency output port;

a phase detector output port;

using a second VCO, generating a ~~voltage controlled oscillator (VCO)~~ signal  
for input to the oscillator port;

coupling a direct digital synthesizer (DDS) to the frequency reference port;

coupling the radio frequency output port to a power amplifier; and

coupling the radio frequency input port to a transmit/receive switch.

11. (Currently Amended) A method as in claim 10 wherein ~~the step of~~ providing a transceiver IC further comprises ~~the steps of~~:

providing a field programmable gate array (FPGA); and

programming the FPGA to operate as a transceiver.

12. (Currently Amended) A method as in claim 10 wherein the step of generating a voltage controlled oscillator signal for input to the oscillator port further comprises ~~the steps of~~:

coupling the phase detector output port to at least one loop filter; and

coupling the at least one loop filter to ~~at least one~~ the second VCO.

13. (Currently Amended) A method as in claim 10 wherein ~~the step of~~ coupling a DDS to the frequency reference port further comprises ~~the step of~~ coupling a first microprocessor controller to the DDS.

14. (Currently Amended) A method as in claim 13 wherein ~~the step of~~ coupling the first microprocessor controller to the DDS further comprises ~~the step of~~ setting a center transmit frequency.

15. (Currently Amended) A method as in claim 13 wherein ~~the step of~~ coupling the first microprocessor controller to the DDS further comprises ~~the step of~~ modulating a transmit frequency.

16. (Currently Amended) A method as in claim 10 ~~wherein transceiving data in the device adapted to transceiving data in the radio frequency spectrum~~ further comprising~~comprises the step of~~:

operating the device in a quiescent baseline receiver mode, wherein the quiescent baseline receiver mode comprises a first power mode;

operating the device in a burst transmit mode when not in the quiescent baseline receiver mode, wherein the burst transmit mode comprises a second power mode, wherein the second power mode is greater than the first power mode;

operating the device with a transmit/receive time ratio less than 1.5; and

transceiving a RF carrier frequency less than 200 MHz.

17. (Currently Amended) A method as in claim 10 ~~wherein transceiving data in the device adapted to transceiving data in the radio frequency spectrum~~ further comprising~~comprises the step of~~ operating the device with a global positioning indicator.

18. (Currently Amended) A method as in claim 10 ~~wherein transceiving data in the device adapted to transceiving data~~ further comprising~~comprises the step of~~ transceiving data in weapons munitions, wherein ~~the step of~~ transceiving data in weapons munitions further comprises ~~the step of~~ transmitting frequency shift key (FSK) modulated signals.

19. (Currently Amended) A method as in claim 10 ~~wherein transceiving data in the device adapted to transceiving data~~ further comprising~~comprises the step of~~ transceiving data in a landmine.

a transmitter section;

a phased locked loop (PLL) frequency generator section, wherein the PLL frequency generator section comprises:

a first voltage controlled oscillator (VCO);

an integrated circuit (IC), wherein the integrated circuit comprises:

a first buffer, wherein the buffer is coupled to the first VCO,  
the first buffer comprises:

a partial second VCO,

a digital direct synthesizer (DDS), wherein the DDS is coupled to the  
IC; and

a controller section, the controller section coupled to the PLL frequency  
generator section and the receiver section.

21. (Original) A bimodal power data link transceiver device as in claim 20, wherein the transmitter section comprises:

the IC, the IC further comprising:

a first amplifier, wherein the first amplifier is coupled to the PLL  
frequency generator section; and

a second amplifier, the second amplifier coupled to the first amplifier.

22. (Original) A bimodal power data link transceiver device as in claim 20, wherein the receiver section comprises:

a low noise amplifier;

a quadrature mixer pair coupled to the low noise amplifier; and

a demodulator coupled to the quadrature mixer pair.

23. (Original) A bimodal power data link transceiver device as in claim 20, wherein the device is adapted to fit in a weapon.

24. (Original) A bimodal power data link transceiver device as in claim 23 wherein the weapon comprises a landmine.

25. (Original) A bimodal power data link transceiver device as in claim 23 wherein the weapon comprises a sea mine.